

Recommended Scope of Analysis for Faribault Energy Park, Rice County, Minnesota  
for Endangered Species Act  
December 12, 2006

Purpose of analysis:

The analysis is intended to determine whether the proposed project at Faribault Energy Park (FEP) is likely to directly or indirectly adversely affect federally listed species. This recommended scope of analysis or roadmap recommends using USEPA's ecological risk assessment process to inform the decision points in section 7 of the Endangered Species Act. Portions of the USEPA's draft Screening Level Ecological Risk Assessment Protocol for Hazardous Waste Combustion Facilities (EPA 530-D-99-001A) provides useful guidance for this analysis. Although this guidance was designed specifically to assess the impact of hazardous waste combustion facilities, it offers general approaches for assessing the fate of chemicals released to the air that can be applied to all types of industrial facilities.

Overall, the evaluation should focus on emissions from the facility. To complete this analysis we need an understanding of the background concentrations and deposition patterns. The anticipated emissions from permitted but not yet operational facilities should be included in background. The anticipated concentration in air or deposition at sites supporting listed species should be compared against NOEL (No observed effects level) benchmarks thought to be protective of the appropriate group (e.g., plants). The evaluation should look at the incremental addition in the context of background concentrations.

Benchmarks:

For these analyses, commonly accepted NOEL (no observed effects levels) benchmarks should be used. Where more than one benchmark can be found, the most conservative value should be used, unless an explanation is given to justify a less conservative benchmark. When there is no commonly accepted benchmark, there should be a search of the scientific literature for relevant toxicity information to provide a basis for risk assessment for the species of concern.

Modeling protocol:

Modeling should follow the general guidance provided in Chapter 3 of USEPA's SLERA protocol for assessing chemical fate and transport. The modeling should show air concentrations and deposition rates for all pollutants (where appropriate). The air emissions resulting from the project should be modeled at the facility level, not on a unit basis. Total impacts should be evaluated looking at the combined effects of the vapor phase, particle phase and particle-bound phase of pollutants. ISCST3 is an acceptable model for this analysis. For chemicals amenable to deposition, models in the SLERA

guidance should be used to estimate concentrations in soil, surface water, and sediment in conjunction with relevant fate and transport parameters.

Background Levels:

Site specific background concentrations in air, soil, water and sediment should be considered in the effects analysis.

Suite of pollutants to consider:

The assessment should cover all air pollutants emitted from the facility including ozone, sulfur compounds, oxides of nitrogen, carbon monoxide, particulates, and hazardous air pollutants. USEPA will provide the analysis for ozone for this project.

Types of impact to consider:

- 1) Long term, depending upon pollutant. Compare the worst year of concentrations in air or deposition on soil (over the last 5 years) with appropriate bench marks for chronic effects.
- 2) Direct effects to listed plants and animals from exposure to the vapor phase, particle phase and particle-bound phase of pollutants.
- 3) The indirect effects to animals from ingestion of plants, fish, and invertebrates that have accumulated these pollutants.

Listed Species:

The species that should be evaluated for impacts from the project are the Bald Eagle, Dwarf Trout Lily and Prairie Bush Clover.